

Winter 1-2014

## 2014 Update Mtg: 2014 Weed Management Update

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# 2014 Weed Management Update



Hilary Sandler, supported by:  
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# Topics

- Poverty grass biology and control
- Herbicide modes of action
- Weed Management Choices & \$\$

**Thanks to CCCGA & OSC  
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# Poverty Grass

Biology and Control

# History of Poverty Grass

- 1950's: occasional weed

- 1980's: regularly encountered

- 2010's: problematic on many farms





# Who are the players?

## ■ Broomsedge

*Andropogon virginicus*



## ■ Little Bluestem

*Schizachyrium scoparium*



# Biology

- Vigorous perennial
  - Densely tufted; stems coming from central crown.
- Bronze - colored stalks persist through winter flood
  - Small indication of things to come



Photos taken Jan 13





# Biology

- Very slow starter
  - new growth does not protrude above vines until June or later
- Many growers caught “by surprise” as populations seem to explode in August.



**Broomsedge**

# Broomsedge

- Native grass, 2-4' tall
- Big seed producer
  - Good germination after cold
  - Wind dispersed (fuzzy seeds)
- Grows esp. on sandy, low-fertility soils
- Shallow-rooted



# Broomsedge Control

- Roundup works
  - But it is non-selective!!
- Mow seedheads and remove, if possible.
  - When are seeds viable?  
Test in 2014.
- Would Flaming work to control flowers or seeds?
  - Try in 2014.





# Little Bluestem

- Forms loose or dense clumps
  - 1.5 – 3 ft tall
- Deep rooted
- Seed germination and dispersal not as good as BS



**Vegetative spread  
important**

# LBS Control

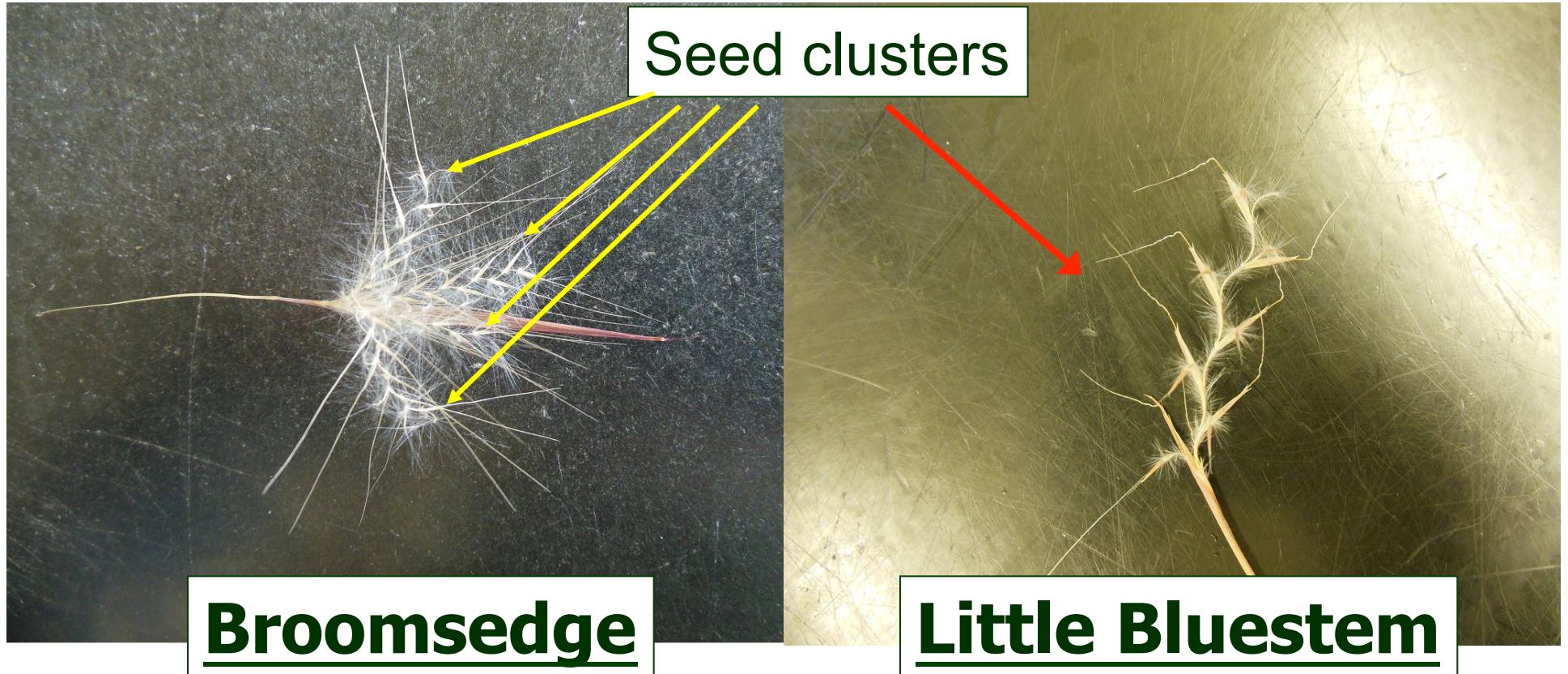
- Fair to poor flood tolerance; exploit?
- Mowing should still help, but seed viability patterns unknown.
- Not really a problem for many, so little research on control.



Preferred for turf!



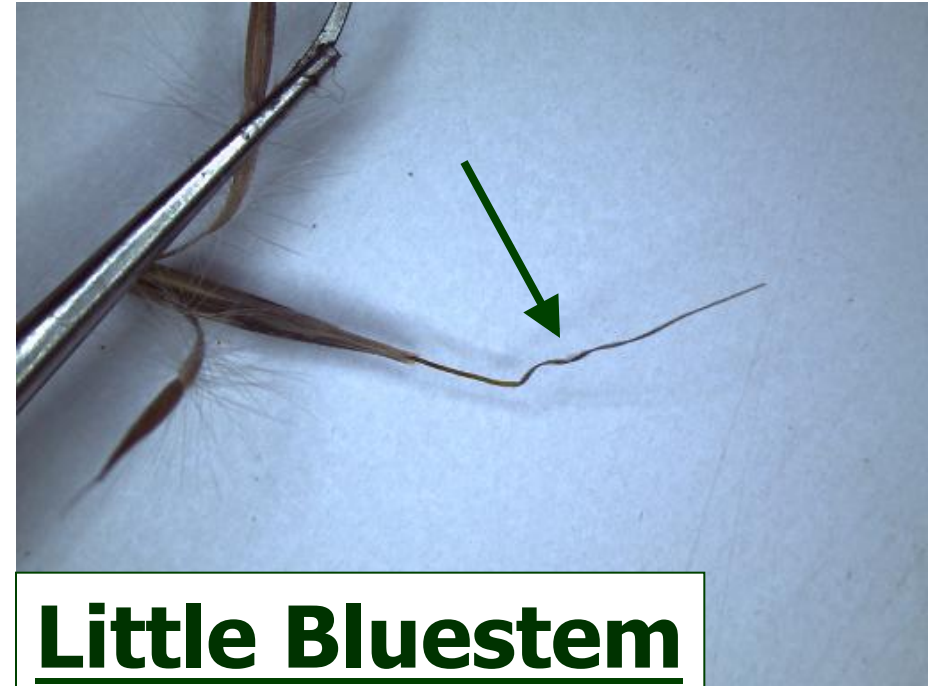
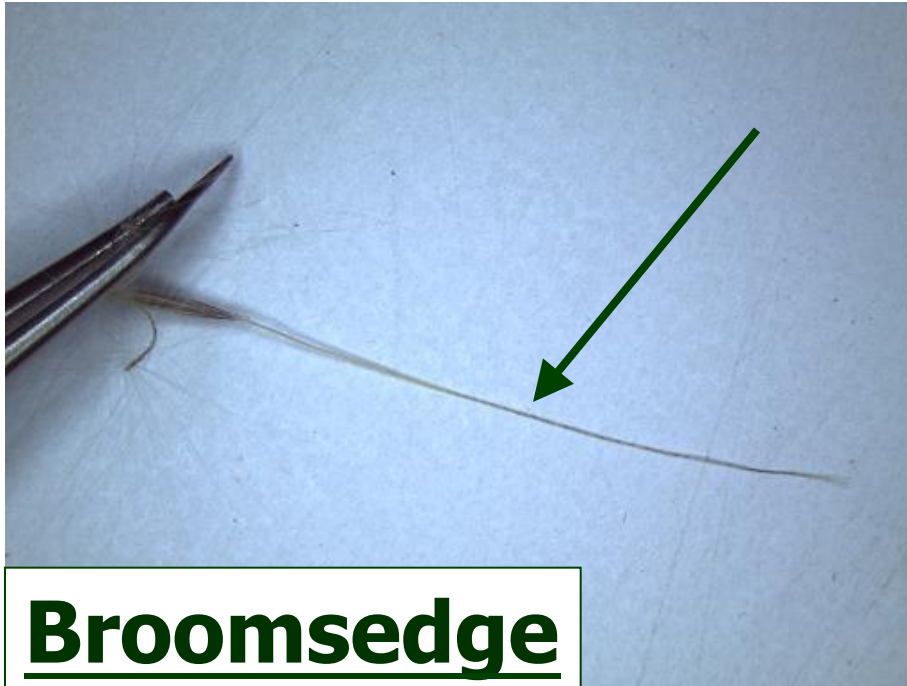
# Tell the difference : Flowering heads



2+ stalked seed  
clusters / branch  
Clusters ~ 1.5 in.

Single cluster of  
seeds / branch  
Clusters ~ 3 in.

Look at the awn of the seed



Broomsedge awn is straight.  
Little Bluestem awn is twisted & bent.

Awn = bristle



# Controls

- High rates **Devrinol**: late April-early May
  - Applications after harvest can work, but spring seemed better.
- **Select** (grass herbicide) should give control as well.
  - Apply before flowering!
- **Roundup** wipes.



# Controls

- Repeated, close mowing to prevent re-seeding.
- Reported:
  - 60 - 75 #/A **Evital** in fall followed by winter sanding worked well.
  - 60 #/A **Evital** in spring worked well.
- Control off-farm populations!







# How Herbicides Work

**PREEMERGENCE  
PRODUCTS**

# Preemergence – Casoron 4G

- Nitrile family, 4 lb a.i. – Group 20
- Volatilizes rapidly
- Apply in fall or spring (usual)
- Incorporate immediately and thoroughly!!
- Compound is lost readily air T >60 F.
- 100 lb in 12 months

# Preemergence - Casoron

- Discovered in 1950s in Netherlands and introduced to cranberry in early 1960s.
- Inhibits **germination**, meristem growth
  - Root tips
- Mode of action not clearly understood but thought to inhibit cell wall formation.

# Preemergence - Casoron

- Apply AFTER sanding.
- 4 yr of repeated app of 40 & 100 lb/A showed **no adverse impact** on yield or vines.
- Weak vines may be impacted adversely, esp by high rates.

# Casoron - Target plants

- Crabgrass, Rattlesnake
- Panicum, Summer
- Aster family  
(thistles, ragweed)
- Dodder
- Horsetail
- Tearthumb, Smartweed
- Beggarsticks, YLS
- Rice cutgrass
- Woolgrass,  
Cottongrass, Nut  
sedge, Needlegrass  
(all sedges)
- Hawkweed
- Wild strawberry
- Hypericum species



# Preemergence: Devrinol DF-XT

- Amide family, 50 lb a.i.; **Group 15**
  - 10G no longer made
- Apply in fall or spring (usual)
- Water in soon after application
  - If soil is moist, not as critical
- 18 lb/A annually (3-6's or 2-9's)

# Preemergence - Devrinol

- Introduced by Stauffer Chemical; labeled for cranberry ca. 1977.
- Seedlings fail to emerge, inhibit root and shoot growth
- Mode of action not clearly understood but thought to interfere with cell division and DNA production.

# Preemergence - Devrinol

- Excellent choice for new plantings.
- Can sand on top of Devrinol or apply on top of sand.
- Water to moisten soil 2-4" deep.
- Agitate throughout injection.
- Works best on weed-free surface.

# Devrinol - Target plants

- Nut sedge
- Beggarsticks / Pitchfork (*Bidens*)
- Cutgrass
- Annual grasses
- Annual BL like chickweed, ragweed, carpetweed

## Devrinol 2-XT

- Truly a liquid
- 22% a.i. (2 lb per gallon)
- New plantings: 6 qt/A
- Established: 12-18 qt/A peat  
8-12 qt/A sandy
- Federally registered; awaiting MA approval.
  - Quantities likely limited for 2014



# Preemergence – Evital

- Pyridazinone family, 5 lb a.i.; **Group 12**
- Apply in fall (usual) or spring.
- Water in after application if no rain.
- Up to 160 lb/A in fall, up to 120 lb/A in spring.

# Preemergence - Evital

- Introduced by Sandoz Ag in 1968; labeled ca. 1977.
- Whitening in stems & leaves as seedlings emerge. May grow for few days, but w/o chlorophyll, plants die.
- MOA: blocks carotenoid synthesis, destroys chlorophyll, turns plant white.



# Preemergence - Evital

- Can sand on top of Evital, but be careful on bogs with drainage issues.
- Sanding after appl of 50 lb/A are fine (on well-drained sites).
- Stevens, McFarlins are sensitive; CQ?
- Some have been happy with Evital on new plantings – watch drainage, variety!





# Evital - Target plants

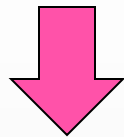
- Barnyardgrass, needlegrass, cutgrass, smokegrass: 80-120 lb/A
- Broomsedge, bog rush, LBS, nutsedge, spike rush, summergrass : 120-160 lb/A
- Switchgrass, woolgrass: 160 lb/A





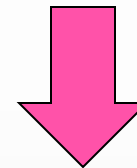
# Evital - Optimize

- Open, well-maintained canopy
- Sprinklers
- Sandy soils
- Sensitive varieties
- Young perennial weeds



**LOWER RATES**

- Leggy vines
- Cannot irrigate
- Peaty, hi OM
- Established weeds
- Vigorous cranberry vines



**HIGHER RATES**

# Thoughts for 2014

- Keep up with weed management, esp if you opt not to raise a crop.
- Consider being aggressive with your weed management if not growing a crop.
  - Apply multiple applications of Casoron for dodder control
  - Use QuinStar

# Thoughts for 2014

- Use LW, spring floods, even summer floods for weed control.
- **CAUTION:** Allow time between herbicide applications and floods, if you do both.
- Call us and let us know if you are doing these activities for weed control.

## 2013 - Cost Profiles / A

- Poast (2 oz/gal; 30 GPA) = \$42  
Callisto, chemigation (8 oz) = \$31  
QuinStar (8 oz) = \$17  
Select (2/3 oz/gal; 30 GPA)= \$15  
Roundup (10% solution)/Weedar <\$5
- Just for materials, no labor costs.

## 2013 - Cost Profiles / A

- Devrinol DF (12 lb) = \$132  
Callisto, ground (8 oz) = \$187  
Casoron (80 lb) = \$192  
Evital (75 lb) = \$281
- At \$8/bbl, Evital would need to save you 35 bbl to be cost-neutral.
- At, \$25/bbl, need to save 11 bbl.



# Thoughts for 2014

- Will be meeting in March to talk dodder management strategies.
- Don't neglect your weed management!!





